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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,883

12/15/2003

Mobius Arnold

7993

7590

01/27/2005

Jay Chesavage  
3833 Middlefield Rd.  
Palo Alto, CA 94303

EXAMINER

GLENN, KIMBERLY E

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 01/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

01

<b>Office Action Summary</b>	<b>Application No.</b> 10/733,883	<b>Applicant(s)</b> ARNOLD ET AL.	
	<b>Examiner</b> Kimberly E Glenn	<b>Art Unit</b> 2817	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 December 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-47 and 49-84 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 38, 40-44, 47, 49-51, 53-55, 57, 59, 60, 63, 66, 68-70, 74, 81 and 83 is/are allowed.
- 6) ☒ Claim(s) 39, 45, 46, 52, 56, 58, 61, 62, 64, 65, 67, 71, 72, 73, 75-80, 82 and 84 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/15/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 39, 56 and 71 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claims 39, 56, and 71 applicant discloses that  $(1/\pi) \arccos(p/X_{pq})$  is an integer, wherein  $p$  = azimuthal wave number,  $q$  = radial wave number and  $X_{pq}$  = the eigenvalue of the mode. Applicant discloses on page 21, lines 10 through 16, that the final waveguide 88 may be constructed one of two different ways. For the special case where  $(\phi_c)/2n = (l/\pi) \arccos(m/X_{mn})$  is an integer, where  $m$  = azimuthal index,  $n$  = radial index and  $X_{mn}$  = the eigenvalue of the mode. One ~~person~~ skill in the art would not be able to make or use the claimed invention since the specification does not describe how the arc cos related to the physical structure of the power combiner. Examiner suggests that applicant use consistent terminology through out the disclosure.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 45, 46, 52, 58, 61, 62, 64, 65, 67, 72, 73, 75, 76, 77, 79, 80<sup>82</sup> and 84<sub>1</sub> are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 45, 46, 61, 62, 76 and 77 recite the limitation "said feed waveguide helical section angle". There is insufficient antecedent basis for this limitation in the claim.

Claims 52, 67 and 82 recite the limitation "said input waveguide" and "said input power". There is insufficient antecedent basis for this limitation in the claim.

Claims 58, 64, 73, 76, 77 and 79 recite the limitation "said central axis". There is insufficient antecedent basis for this limitation in the claim.

Claim 72 recite the limitation "said radius" and "said feed waveguide axis". There is insufficient antecedent basis for this limitation in the claim.

Claim 75 recite the limitation "said feed waveguide radius". There is insufficient antecedent basis for this limitation in the claim.

Claims 76 and 77 recite the limitation "said feed waveguide center axis". There is insufficient antecedent basis for this limitation in the claim.

Claim 78 recite the limitation "said feed waveguide helical launch port". There is insufficient antecedent basis for this limitation in the claim.

Claim 84 recite the limitation "said reflector waveguide ". There is insufficient antecedent basis for this limitation in the claim.

***Allowable Subject Matter***

Claims 38, 40-44, 47, 49-51, 53-55, 57, 59, 60, 63, 66, 68-70, 74, 81 and 83 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art record does to disclose or fairly teach a power combiner comprising of a plurality of cylindrical feed waveguides, a plurality k of focusing reflectors, one for each said feed waveguide and a final waveguide for collecting power reflected by each said focusing reflector with a proximal final waveguide reflector port.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mobius et al US Patent 5,266,962, Baca US Patent 5,734,303, Aves et al US Patent 5,880,648, Brown et al US Patent 2,428,831, Myer US Patent 5,223,809, Hollingsworth et al US Patent 4,375,622, Schellenberg et al US Patent 4,234,854, Hieber et al US Patent 4,189,684, Spence US Patent 4,182,996, Thoren et al US Patent 4,147,994, Covington, Jr. US Patent 4,035,746, Nagelberg US Patent 3,500,258, Vient US Patent 3,422,377 and Wilkinson US Patent 3,091,743.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly E Glenn whose telephone number is (571)-272-1761. The examiner can normally be reached on Monday-Friday 7:30 to 4:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on (571)-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2817

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kimberly E Glenn  
Examiner  
Art Unit 2817

keg

  
**Benny T. Lee**  
Primary Examiner